CLAIMS

1. A Pb-free copper-based sintered alloy, characterized in that it has a composition containing from 1 to 30 % by mass of Bi and from 0.1 to 10 % by mass of hard matter particles having from 10 to 50 μm of average particle diameter, the balance consisting of Cu and unavoidable impurities, and, further, the Bi phase having smaller average particle diameter than that of the hard matter particles is dispersed in the Cu matrix.

2. A Pb-free copper-based sintered alloy, characterized in that it has a composition containing from 1 to 30 % by mass of Bi, at least one of a group consisting of from 1 to 15% by mass of Sn, from 0.1 to 5% by mass of Ni, and 0.5% by mass or less of P, from 0.1 to 10 % by mass of hard matter particles having from 10 to 50 μm of average particle diameter, the balance consisting of Cu and unavoidable impurities, and, further Bi phase having smaller average particle diameter than that of the hard matter particles is dispersed in the Cu matrix.

3. A Pb-free copper-based sintered alloy, characterized in that it has a composition containing from 1 to 30 % by mass of Bi and from 0.1 to 10 % by mass of hard matter particles having from 10 to 50 μm of average particle diameter, the balance consisting of Cu and unavoidable impurities, and, further, the hard matter particles having 50% or less of a contact length ratio with the Bi phase based on the total circumferential length of the hard matter, which is in contact with said Bi phase, are present in a ratio of 70% or more based on the entire number of the hard matter particles.

4. A Pb-free copper-based sintered alloy, characterized in that it has a composition containing from 1 to 30 % by mass of Bi, at least one of a group consisting of from 1 to 15% by mass of Sn, from 0.1 to 5% by mass of Ni, and 0.5% by mass or less of P, and from 0.1 to 10 % by mass of hard matter particles having from 10 to 50 μm of average particle diameter, the balance consisting of Cu and unavoidable impurities, and, further the hard matter particles having 50% or less of a contact length ratio with the Bi phase based on the total circumferential length of the hard matter particles, which are in contact with said Bi phase, are present in a ratio of 70% or more based on the entire number of the hard matter particles.

5. A Pb-free copper-based sintered alloy according to any one of claims 1 through 4, wherein said hard matter particles is an Fe compound, such as Fe_2P, Fe_3P, FeB, Fe_2B and Fe_3B.